Microsoft

MICROSOFT AND TECHNICAL PROTECTION SYSTEMS:
COMMENTS TO THE PTO FOR THE TEACH ACT REPORT

Microsoft Corporation is pleased to submit these comments to Patent and Trademark Office (PTO) to assist PTO in the preparation of its report to Congress on technical protection systems pursuant to the Technology, Education and Copyright Harmonization Act of 2002 (TEACH Act).[1] As a leading software developer, Microsoft is a key provider of technologies designed to protect digital content, also known as digital rights management (DRM) systems. Microsoft is also committed to enhancing educational opportunities through the use of IT and actively assists students and educators to maximize the benefits offered by distance education. This paper summarizes Microsoft's core DRM technologies and explains how these may be used to facilitate distance learning.

Microsoft's DRM Technologies

Microsoft's core DRM technology is ***Windows Media Rights Manager***, and end-to-end system that supports the secure delivery of digital media content as it travels across the Internet and between devices. Rights Manager provides a robust, flexible solution that supports a broad array of distribution and business models, including real-time streaming of digital content. Windows Media Rights Manager includes the following features:

- ***Secure packaging and distribution.*** Windows Media Rights Manager secures digital media content by encrypting it. This encryption can be unlocked only with "keys" contained in separately distributed decryption key licenses (hereinafter "licenses"), so that only users who have obtained a license for the file may play it. Each license is automatically bound to the machine that receives it and cannot be shared, copied, or used on different devices. Encrypted files can be either streamed or downloaded, and licenses can be obtained either simultaneously with the content or at a different time. Rights Manager also incorporates Secure Audio Path technology, which prevents music from being intercepted by unauthorized applications before it reaches the computer's sound card.

- ***Flexible licensing rules.*** Windows Media Rights Manager gives content owners great flexibility in setting the parameters of permissible content distribution and usage. With Rights Manager, content owners can specify rules for start and expiration times, if any; the number of times the file can be played, from one-time use to unlimited play; whether the file can be burned onto a CD-RW; whether the file may be played on or transferred to portable devices or media; and the security level of the application on which the file may be played. To acquire a license, the user is either directed to a registration page, or the license is "silently" retrieved from a licensing server, with no separate user action required.

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[1] *See* United States Patent and Trademark Office, *Request for Written Comments and Notice of Hearings on Technological Protection Systems for Digitized Copyrighted Works,* 67 Fed. Reg. No. 236, at 72920 (Dec. 9, 2002).

- ***Ability to upgrade and repair.*** Windows Media Rights Manager allows content owners to respond effectively to security breaches. Because licenses and media files are distributed separately, licenses can be renewed at the central licensing server without needing to re-encrypt or redistribute files. Rights Manager also makes each player unique by linking it to the host device, thereby deterring hackers from distributing compromised players over the Internet.

  In the event a specific media player or file is compromised, the content owner can quickly isolate them by revoking license delivery to these players or files and by issuing uncorrupted licenses to existing users, thereby ensuring that legitimate users will continue to have access to their stored media. Content owners can even, if they wish, determine the security level that media players must satisfy so that, for instance, a given media file can only be played on more secure players.

Windows Media Rights Manager version 1 was released in August 1999. The second-generation technology, Windows Media Rights Manager version 7, includes both server and client software development kits (SDKs) that enable third-party developers to create applications that encrypt (package) digital media files and issue licenses for those files. These SDKs allow developers to exploit the full power of Windows Media Rights Manager technology, including the ability to acquire licenses for protected files, back up and store licenses, issue security upgrades, and securely transfer protected files to portable devices.

Applications that incorporate Windows Media Rights Manager technology are deployed on over 450 million machines and devices. Media players compatible with Windows Media Rights Manager are included at no extra cost with Windows operating systems. Microsoft's own digital content delivery system, which incorporates Windows Media Rights Manager technology, is known as Windows Media 9 Series. Windows Media 9 includes the ability to play digital content on devices other than PCs, such as set-top boxes and portable devices.

Microsoft's ***Digital Asset Server*** is Microsoft's DRM solution for electronic publishing. The front-end component of Digital Asset Server, known as DAS eCommerce, is used to initiate the process by which users order and download content from eBook providers. The back-end component, known as DAS Server, securely encrypts eBook files and downloads these files to users. Files in eBook format can be read with the Microsoft Reader 2.0, which is available for both PCs and portable devices.

Launched in August 2000, Microsoft's eBooks DRM is used by more than 20 eBookstores worldwide. Several leading publishers and online booksellers – including BarnesandNoble.com – have selected the Microsoft eBooks DRM platform as their preferred eBooks technology.

Application to Distance Learning

Microsoft provides extensive support for educational initiatives worldwide. In addition to funding numerous education programs and offering educational licensing discounts, Microsoft also provides free online instructional and technical resources for educators and offers products specifically designed for the classroom context. Microsoft is firmly committed to providing technologies and resources that remove limitations and create opportunities for students and educators everywhere.[2]

Educators and institutions that offer distance learning programs can likewise benefit from Microsoft technologies. Because Microsoft's DRM technologies were designed to support a broad range of models, these technologies provide a rich, flexible platform for distance education. Distance learning programs can use the Windows DRM platform to facilitate the effective use of digital educational content, while also protecting this content against infringing uses and facilitating uses in accordance with the TEACH Act.

The following scenario illustrates one of the many ways in which Microsoft's DRM technologies can facilitate distance learning. A major university decides to offer distance learning courses in engineering to students located anywhere in the United States. The university has created digital videos of certain course presentations and digital files of course materials, and plans on occasion to provide online streams of live faculty discussions in real time. Using Windows Media Rights Manager, the university can encrypt these files so that they can be securely streamed to students enrolled in the course, while protecting the files against unauthorized users or uses. In a typical scenario, students simply log onto the appropriate website, which then server automatically distributes a license that specifies the rules governing the student's use of the course materials.

Several leading educational institutions already use Windows Media technology to offer distance learning programs. For instance, the University of Cincinnati augments its traditional courses with online lectures and events through its Streaming Media Project. Based on the Windows Media platform, the Streaming Media Project offers streamed versions of more than 400 hours of instructional material, as well as many special campus events such as guest lectures and seminars, campus forums and panel discussions, and the live audio feed of BearCast, the university's Internet-only, student-operated radio station. Similarly, the Seattle Community College District (SCCD) – Washington State's second-largest institution of higher learning – serves a growing population of students through its distance-learning programs. SCCD recently introduced an online educational portal based on Windows Media technology that will deliver streaming telecourse video to thousands of Seattle area students.

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[2] Additional information on Microsoft's vision for education and educational initiatives is available at http://www.microsoft.com/education/?ID=MSEducation.

Microsoft welcomes this opportunity to respond to the PTO's request for comments on technological protection systems pursuant to the TEACH Act.